

CLAIMS

I claim:

- 5 1. A method for use of dual frequency tones to increase single frequency tone continuous tone controlled squelch system channel capacity in a frequency bandwidth of approximately 67 Hz to 251 Hz comprising:
- a) selecting a frequency intermediate each adjacent single frequency tone channel of an existing continuous tone controlled squelch system;
- 10 b) eliminating each frequency selected in step a) that is less than 100 Hz and each frequency that is greater than 200 Hz; and
- c) selecting all combinations of two of the frequencies remaining after step b) as dual frequency tones.
- 15 2. The method as in claim 1 wherein step c) further includes the requirement for selecting all combinations of two of the frequencies remaining wherein each combination of two frequencies has at least 6 frequency steps separation.
- 20 3. The method as in claim 2 wherein each combination of two frequencies allows use of existing equipment having a two digit channel operating system.
4. The method as in claim 1 further comprising:
- 25 d) selecting a channel number for each dual frequency tone in accordance with the following table:

Table IV

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Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
39	109.05	134.15
40	109.05	138.90

41	109.05	143.75
42	109.05	148.80
43	109.05	154.05
44	109.05	159.45
45	109.05	165.05
46	109.05	170.85
47	109.05	176.85
48	109.05	183.05
49	109.05	189.50
B01	109.05	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
50	112.85	138.90
51	112.85	143.75
52	112.85	148.80
53	112.85	154.05
54	112.85	159.45
55	112.85	165.05
56	112.85	170.85
57	112.85	176.85
58	112.85	183.05
59	112.85	189.50
B02	112.85	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
60	116.80	143.75
61	116.80	148.80
62	116.80	154.05
63	116.80	159.45
64	116.80	165.05
65	116.80	170.85
66	116.80	176.85
67	116.80	183.05
68	116.80	189.50
B03	116.80	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
69	120.90	148.80
70	120.90	154.05
71	120.90	159.45
72	120.90	165.05
73	120.90	170.85
74	120.90	176.85
75	120.90	183.05
76	120.90	189.50
B04	120.90	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
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77	125.15	154.05
78	125.15	159.45
79	125.15	165.05
80	125.15	170.85
81	125.15	176.85
82	125.15	183.05
83	125.15	189.50
B05	125.15	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
84	129.55	159.45
85	129.55	165.05
86	129.55	170.85
87	129.55	176.85
88	129.55	183.05
89	129.55	189.50
B06	129.55	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
90	134.15	165.05
91	134.15	170.85
92	134.15	176.85
93	134.15	183.05
94	134.15	189.50
B07	134.15	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
95	138.90	170.85
96	138.90	176.85
97	138.90	183.05
98	138.90	189.50
B08	138.90	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
99	143.75	176.85
A01	143.75	183.05
A02	143.75	189.50
B09	143.75	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
A03	148.80	183.05
A04	148.80	189.50
B10	148.80	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
A05	148.80	189.50
B11	148.80	198.15

Channel Number	Dual tone low group frequency (Hz)	Dual tone high group frequency (Hz)
B12	154.05	198.15

5. The method as in claim 1 further comprising:
d) transmission of a combined single frequency tone and dual
5 frequency tone in combination with an audio signal for receipt by a receiver.

6. A communication system produced to transmit and receive signals having a frequency structure according to the methods of claim 1.

10 7. A communication system produced to transmit and receive signals having a frequency structure according to the methods of claim 2.

8. A communication system produced to transmit and receive signals having a frequency structure according to the methods of claim 3.

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9. A communication system produced to transmit and receive signals having a frequency structure according to the methods of claim 4.

10. A communication system produced to transmit and receive signals
20 having a frequency structure according to the methods of claim 5.